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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,363	04/20/2004	Naoki Kanayama	030673-178	3845

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EXAMINER

MAFAHER, NINA YASMIN

ART UNIT PAPER NUMBER

2855

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

4K

Office Action Summary	Application No. 10/827,363	Applicant(s) KANAYAMA ET AL.	
	Examiner Nina Y. Mafaher	Art Unit 2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/20/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/20/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being obvious over Yoshinori (JP-A 10-019554) in view of Godler (6,840,118).

The applied references have a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

With respect to Claims 1 and 6, Yoshinori discloses a wave gear device that includes two sets of strain-detecting elements, which output sinusoidal signals with a 90-degree phase deviation. Yoshinori further discloses calculating a rotational angle based upon these outputs (Abstract).

Yoshinori fails to disclose first, second, and third strain detecting elements that are disposed at intervals of 120 degrees in the circumferential direction on one of the rigid internal gear and the flexible external gear.

Godler discloses a rotational angle detecting device and method for a wave gear device that includes a ring-shaped rigid internal gear, a flexible external gear, and a wave generator with an elliptical shape for flexing the flexible external gear into an elliptical shape so as to partially engage the rigid internal gear and for moving engagement positions of the two gears in a circumferential direction (Column 1, lines 17-24).

Godler further discloses first, second, and third strain detecting elements that are disposed at intervals of 120 degrees in the circumferential direction on one of the rigid internal gear and the flexible external gear (Column 6, lines 4-8; Figure 4), as well as a signal component extracting means that extracts, from outputs of the first to third strain detecting elements, signal components that appear as two cycles of a sine wave per rotation of the wave generator and are synchronous with a rotational angle of the wave generator (Column 2, lines 50-53; Figure 6a).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the wave gear device of Yoshinori with that of Godler for the purpose of detecting the rotation angle of the output shaft of a wave gear device, since ripple compensation is not possible using two sets of strain gauges because the detection output does not have sufficient linearity; the use of three sets of strain gauges make it possible to fully compensate for the rotational ripple (Column 5, lines 31-36; Column 1, lines 63-66).

With respect to Claim 2, Godler discloses a flexible external gear including a cylindrical trunk part, a ring shaped diaphragm that extends from one end of the cylindrical trunk part outward or inward in a radial direction, a thick boss that is continuous with one of an outer circumferential edge or an inner circumferential edge of the diaphragm, and external teeth formed on an outer circumferential surface portion of an opening end of the cylindrical trunk part (Figure 1, #2, #3, #4, #5).

With respect to Claim 3, Godler discloses the first to third strain detecting elements disposed on the flexible external gear (Column 6, lines 4-8).


With respect to Claim 4, Godler discloses the first to third strain detecting elements include a plurality of strain gauges (Column 6, lines 4-9).

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With respect to Claim 5, Godler discloses a motor fixed to a wave generator of a wave gear device (Column 1, lines 26-31), and the rotational angle of the motor shaft detected by the rotational angle-detecting device (Column 1, lines 8-14).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NYM


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